

Amaury Lendasse

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Aalto University School of Science *E-mail:* amaury.lendasse@aalto.fi
FI-00076 Aalto FINLAND *WWW:* <http://research.ics.aalto.fi/eiml>

DATE AND PLACE OF BIRTH April 16th, 1972, Tournai, Belgium

CITIZENSHIP AND FAMILY STATUS Belgian, married with Kati Pulkkinen, one daughter b. 2011

RESEARCH INTERESTS **Theory:** Machine Learning, Time Series Prediction, Feature Selection, Functional Data Analysis
Applications: Chemometrics, Environmental Modeling, Corporate Finance, Internet Security

EDUCATION **Université catholique de Louvain**, Louvain-la-Neuve, Belgium
Ph.D. in Applied Sciences, October 2003

- Dissertation Topic: “Analyse et prédiction de séries temporelles par méthodes non linéaires: Application à des données industrielles et financières (Analysis and Prediction of Time Series using Nonlinear Methods: Application to Industrial and Financial Datasets), Presses universitaires de Louvain, ISBN: 2930344342, Louvain-la-Neuve (Belgium)”
- Advisors: Michel Verleysen and Vincent Wertz

Master’s degree in Control (Diplôme d’étude complémentaire en automatique), June 1997 with *Magna Cum Laude*
Master’s degree in Mechanics (Ingénieur Civil en mécanique), June 1996 with *Cum Laude*

LANGUAGES 1. French, 2. English (fluent), 3. Finnish (basic)

EMPLOYMENT **University of Iowa**, Iowa, USA **May 2014 - present**
Associate Professor

Arcada University of Applied Sciences, Helsinki, Finland **January 2014 -present**
Visiting Position

Ikerbasque, San Sebastian, Spain **June 2013 -July 2014**
Research Professor (tenured position)

Aalto University (former HUT), Otaniemi, Finland **Apr 2007 - present**
Adjunct Professor, Docent and Chief Research Scientist
Includes supervision of Ph.D. Students and Master Students.
Group Leader **Jan 2005 - Mar 2007**
Creation of the "Environmental and Industrial Machine Learning" research group
Postdoctoral Researcher **Jan - Dec 2004**
Working on a research project in collaboration with Nokia

University of Memphis, Tennessee, USA **Oct - Dec, 2003**
Postdoctoral Researcher
Postdoctoral researcher at the Computational Neurodynamics laboratory in collaboration with NASA

Université catholique de Louvain, Louvain-la-Neuve, Belgium

Ph.D. Student

Oct 1998 - Sep 2003

Course Assistant (university staff) and Ph.D. student
in the Automatic Control Laboratory

Ph.D. Student

Sep 1997 - Sep 1998

Scholarship from Université catholique de Louvain (FSR)
in the Electronics Laboratory

INVITED POSITIONS Invited Professor at the Ecole Centrale de Lille (one month in 2011, 2012 and 2013)

Invited Professor at the Université de Lille (one month in 2012)

Invited Professor at the Université Paris I, Sorbonne (one month in 2011 and in 2012)

Invited Professor at the University of the Basque Country (one month in 2012)

SUPERVISED PH.D. Qi Yu, Machine Learning for Bankruptcy prediction Problems, 2013, Aalto University School of
THESES Science and Technology, Finland

Yoan Miché, Developing Fast Machine Learning Techniques with Applications to Steganalysis Problems, double degree Ph.D. thesis, co-supervised by Christian Jutten from the INPG-France, 2010, Aalto University School of Science and Technology, Finland

Elia Liitiäinen, Noise Variance Estimation for Function Approximation, 2010, Aalto University School of Science and Technology, Finland

Antti Sorjamaa, The Problem of Missing Data in Spatio-Temporal Databases, 2010, Aalto University School of Science and Technology, Finland

Francesco Corona, Development and Application of Data-Derived Models for Monitoring Industrial Processes, 2006, Università Degli Studi Di Cagliari, Italy

SUPERVISING PH.D. Emil Eirola, Using causal relationships for ensemble modelling of the Baltic Sea (started in 2009)

THESES

Dusan Sovilj, Machine Learning Methods for Environmental Modeling of Baltic Sea (started in 2009)

Alexander Grigorievskiy, Machine Learning for Environmental Modeling (Prediction of Incomplete Environmental Time Series) (started in 2013)

MEMBER OF PH.D. Francis wyffels, Sequence Generation with Reservoir Computing Systems, 2013, University of Gent,
JURIES Belgium

Gines Rubio Flores, Advanced Computational Intelligence Models for functional approximation and prediction of time series in parallel architectures, 2010, Universidad de Granada, Spain

Federico Montesino Pouzols, Mining and Control of Network Traffic by Computational Intelligence, 2009, University of Sevilla, Spain

Rui Nian, Pattern Recognition with Statistical and Geometrical Mutual Relationships, 2008, Ocean University of China (Qingdao), China

Alberto Guillen, Design of intelligent systems in parallel computation platforms, 2007, Universidad de Granada, Spain

Luis Javier Herrera, Intelligent and Adaptive system for function approximation and time series prediction using advances models, 2007, Universidad de Granada, Spain.

Damien Francois, High-dimensional data analysis: optimal metrics and feature selection, 2007, Université catholique de Louvain, Belgium

Amaury Lendasse: Summary of Merits

| | |
|----------------------------------|--|
| TEACHING | Machine Learning: Basic Principles (T-61.3050), 2012 Information visualization (T-61.5010), 2010-2012 Bankruptcy Prediction at the Ecole Centrale de Lille, 2010- Statistical Signal Modeling (T-61.3040), 2010-2012 Machine Learning for Corporate Finance (T-61.9910), 2011 Bankruptcy Prediction (T-61.6020), 2009 Time Series Analysis and Modeling of Environmental Data, 2009 (BONUS+ EEIG course) High-dimensional Data Analysis: From Optimal Metrics to Feature Selection (T-61.6010), 2008 Nonlinear Dimensionality Reduction (T-61.6050), 2007 Introductory Elements of Functional Data Analysis (T-61.6030), 2007 Variable Selection for Regression (T-61.6040), 2006 Neural Networks for Modeling and Control of Dynamic Systems (T-61.6050), 2005 Regularization and Sparse Basis Function Approximations (T-122.102), 2005 Support Vector Machines (T-61.190), 2005 Analysis of Time Series and Sequences (T-122.101), 2004 |
| SUPERVISED PH.D THESES | Instructor for 9 Ph.D Theses at the Aalto University School of Science. |
| SUPERVISED M.SC THESES | Instructor for 13 M.Sc Theses at the Aalto University School of Science. Instructor for 15 M.Sc Theses at the Universite catholique de Louvain in Belgium under the supervision of Prof. Verleysen |
| SEMINAR AND INVITED TALKS | Jun.'13, Keynote Speaker at IWANN'13, "Extreme Learning Machine: A Robust Modeling Technique? Yes!", Tenerife (SP) Apr.'12, Keynote Speaker at Statlearn'12, "Challenging problems in Statistical Learning", Lille (FR) Sept.'11, University of the Basque Country, Dept. of Computer Science, invited by Prof. Grana Jul.'10, Univ. de Granada, E.T.S. Ingenierías Informática y Telecom, invited by Prof. Prieto Jun.'08, Institute for Robotics and Cognitive Systems, Univ. Luebeck, invited by Prof. Schweikard Jun.'07, Univ. de Granada, E.T.S. Ingenierías Informática y Telecom, invited by Prof. Rojas May'05, Univ. Paris 1 - Panthéon-Sorbonne (France), Lab. SAMOS, invited by Prof. Cottrell May'04, Invited Lecturer at the University of Tartu (Estonia), Computer Sciences Department Apr.'03, Univ. of Memphis (USA), Comp. Neurodynamics Laboratory, invited by Prof. Kozma May'02, Ohio State Univ. (USA), Collaborative Center of Control Science, invited by Prof. Yurkovich May'02, Ohio Univ. (USA), School of Electrical Eng. & Comp. Science, invited by Prof. J. Zhu Mar.'00, Katholieke Univ. Leuven (Belgium), ESAT Laboratory, invited by Prof. Suykens |
| OTHER SCIENTIFIC ACTIVITY | Member of the EC's Network of Excellence under Framework 6 PASCAL and Framework 7 PASCAL2 (Pattern Analysis, Statistical modeling and ComputAtional Learning) Member of the board of the Helsinki Graduate School in Computer Science and Engineering IEEE member, Vice-Chair for Europe of the Standards Committee of the IEEE Computational Intelligence Society (CIS) (2011-2012) |
| REVIEWER FOR SCIENTIFIC JOURNALS | Neurocomputing (also Guest Editor), IEEE Trans. on Neural Networks, Neural Processing Letters, Journal of Chemometrics, Computational Statistics and Data Analysis, Information Sciences, International Journal of Forecasting (also Guest Editor), International Journal of Pattern Recognition and Artificial Intelligence, Case Studies in Business, Industry and Government Statistics (also Associate Editor), Systems, Man and Cybernetics - Part B, Fuzzy Sets and Systems, Neural Networks, Evolving Systems, Transactions on Knowledge and Data Engineering, BMC Biotechnology |

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| CONFERENCE COMMITTEES | <p>International Symposium on Extreme Learning Machine (ELM'11 to '14) (also Program Chair)</p> <p>International Conference on Artificial Neural Networks (ICANN'11) (also Organizing Chair)</p> <p>International Symposium on Extreme Learning Machines (ELM'11) (also Publicity Chair)</p> <p>European Symposium on Neural Networks, Computational Intelligence and Machine Learning (ESANN'11 to '14)</p> <p>International Joint Conference on Neural Networks (WCCI'10/ IJCNN'10) (also Workshops Chair)</p> <p>Workshop on Self-Organizing Maps (WSOM'05 and '09) (also Special Session Chair)</p> <p>International and Interdisciplinary Conf. on Adapt. Knowledge Representation & Reasoning (AKRR'08)</p> <p>International Work-Conference on Artificial Neural Networks (IWANN'07)</p> <p>Computational Methods for Modelling and learning in Social and Human Sciences (MASHS'07-'10)</p> <p>International Conference on Natural Computing (NC'07)</p> <p>International Joint Conference on Neural Networks (IJCNN'04)</p> |
| ORGANIZED EVENTS | <p>Organizer of the the special session: "Machine learning techniques based on random projections" at the European Symposium on Neural Networks (ESANN'10)</p> <p>Organizer of the European Symposium on Time Series Prediction (ESTSP'07 and ESTSP'08)</p> <p>Editor of the <i>Proceedings of European Symposium on Time Series Prediction</i> (ESTSP'07 and ESTSP'08)</p> <p>Organizer of the special session: "Time Series Competition: The CATS Benchmark" at the International Joint Conference on Neural Networks 2004 (IJCNN'04)</p> <p>Organizer of the special session: "Feature Selection and Dimension Reduction for Regression" at the International Conference on Artificial Neural Networks 2006 (ICANN'06)</p> |
| AWARD | <p>Best Paper Award at the NN3 Neural Network Forecasting Competition at the International Joint Conference on Neural Networks 2007 (IJCNN'07).</p> |
| SCIENTIFIC PUBLICATIONS | <p>51 articles published in international journals, 130 refereed conference papers and book chapters, 3 Books (including PhD Thesis, in French), See attached complete list of publications. H-index: 24 (24 published papers with at least 24 citations each) using Google Scholar, h-index: 15 using Scopus, Erdős number: 3</p> |
| INDUSTRIAL AND EUROPEAN PROJECTS | <p>Leading Scientist in the "Tivit Data 2 Intelligence Program" (D2I) funded by TEKES, in collaboration with F-Secure, funding: 214 KEUR in 2014, 100 KEUR in 2013 and 120 KEUR in 2012.</p> <p>Leading Scientist in the "Tivit Future Internet Program" (FI-SHOK) funded by TEKES, in collaboration with F-Secure, funding 240 KEUR in 2011.</p> <p>Supervisor of Dr. Federico Pouzols, Marie Curie Fellow of the Intra-European Fellowship (IEF) programme, within the EU's Seventh Framework Programme FP7, funding 170 KEUR, 2009-2011.</p> <p>Leading scientist for the "Assessment and Modelling of Baltic Ecosystem Response (AMBER)" project, within the EU's Seventh Framework Programme FP7, funding: 50 KEUR in 2010.</p> <p>Leading scientist for the "Nonlinear temporal and spatial forecasting: modeling and uncertainty analysis, Phase II (NOTES-2)" project, funded by TEKES, Modeling and Simulation (MASI) Program, 2008. Tekes' funding share: 401 KEUR.</p> <p>Leading scientist for the "Nonlinear temporal and spatial forecasting: modeling and uncertainty analysis (NOTES)" project, funded by TEKES, Modeling and Simulation (MASI) Program, 2006-2007. Tekes' funding share: 602 KEUR.</p> <p>Head Scientist and chairman of the steering Group for the "Developing Chemometrics with the Tools of Information Sciences (CHESS)" project, funded by TEKES, Modeling and Simulation (MASI) Program, 2006-2007. Tekes' funding share: 315 KEUR.</p> |
| GRAD. SCHOOL GRANTS | <p>3 PhD students and 2 former PhD students funded by the Helsinki Graduate School in Computer Science and Engineering (HECSE). Total fundings: 375 KEUR</p> |
| CO-OBTAINED WITH STUDENTS | <p>1 PhD student funded by the Finnish Doctoral Programme in Computational Sciences (FICS). Total fundings: 75 KEUR</p> |

A. Lendasse, Bibliometrics Summary and LAST Publications

All the publications are publicly available at <http://users.ics.aalto.fi/lendasse/>.

Bibliometric data:

- Number of published peer-reviewed journal articles: 51
- Number of published peer-reviewed conference articles: 130
- Number of published books (monographs, edited collections): 2

Bibliometric indicators:

- Total number of publications: 230 (Google Scholar), 114 (Scopus)
- Total number of citations: 2510 (Google Scholar), 887 (Scopus)
- h-index: 24 (Google Scholar), 15 (Scopus)

NEW publications:

1. Long-term Time Series Prediction using OP-ELM. Alexander Grigorievskiy, Yoan Miche, Anne-Mari Ventela and Amaury Lendasse. In Neural Networks, 2013, to appear.
(5-Year Impact Factor: 2.501)
2. ELMVIS: a Nonlinear Visualization Technique using Random Permutations and Extreme Learning Machine, Anton Akusok, Amaury Lendasse and Yoan Miche. Accepted in IEEE Intelligent Systems.
(5-Year Impact Factor: 2.538)

The evolution of the number of citations according to Scopus is given in Figure 1.

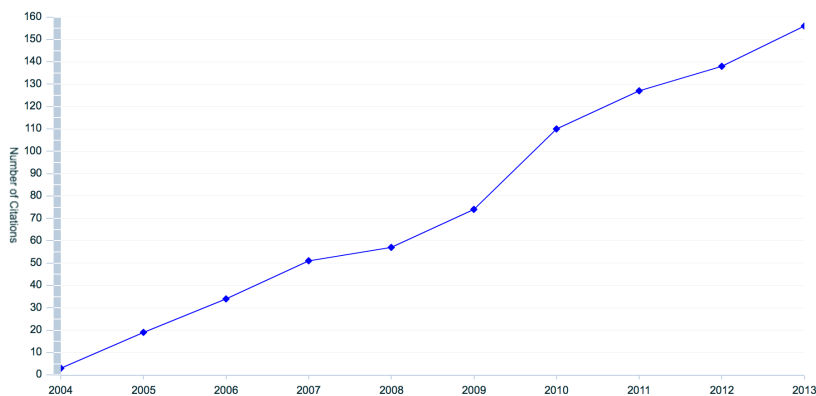


Figure 1: Number of Citations from 2004 to 2013 (according to Scopus)

Ranking (based on my personal opinion and not according to the number of citations)

- [1] Y. Miche, A. Sorjamaa, P. Bas, O. Simula, C. Jutten, and A. Lendasse, "OP-ELM: Optimally-pruned extreme learning machine," *IEEE Transactions on Neural Networks*, vol. 21, pp. 158–162, January 2010.

This paper is presenting an improvement of the Extreme Learning Machine. Extreme Learning Machine is the fastest way to build nonlinear regressors and classifiers. OP-ELM is an elegant way to make ELM robust and efficient. In this paper, we have shown that OP-ELM is providing the best ratio efficiency / computational time among all the state-of-the-art methods in Machine Learning (SVM, GP, MLP, ELM, etc.) This method is now used in many fields like Steganalysis, Environmental Modeling, Time Series Prediction, Bankruptcy Prediction, etc.

Number of citations: 72/130/20 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 3.37

DOI: <http://dx.doi.org/10.1109/TNN.2009.2036259>.

- [2] A. Lendasse, J. A. Lee, V. Wertz, and M. Verleysen, "Forecasting electricity consumption using nonlinear projection and self-organizing maps," *Neurocomputing*, vol. 48, pp. 299–311, October 2002.

In this paper, a new methodology to select and/or build the inputs of a prediction model is presented. This methodology is using curvilinear component analysis in order to select the necessary and sufficient information to predict the future of a Time Series. Kohonen Maps are used as prediction models due to their robustness. This methodology is now recognized as one of the most efficient for the prediction of electricity consumption.

Number of citations: 35/51/23 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 1.60

URL: <http://www.sciencedirect.com/science/article/pii/S0925231201006464>.

- [3] J. A. Lee, A. Lendasse, and M. Verleysen, "Nonlinear projection with curvilinear distances: Isomap versus curvilinear distance analysis," *Neurocomputing*, vol. 57, pp. 49–76, March 2004.

Together with my former master student John Lee, we have developed a new method for nonlinear projection: Curvilinear Distance Analysis (CDA). Like ISOMAP, CDA is using geodesic distances, but we have shown that CDA is more robust than ISOMAP. CDA is now one of the most used methods for dimensionality reduction.

Number of citations: 82/131/61 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 1.60

DOI: <http://dx.doi.org/doi:10.1016/j.neucom.2004.01.007>.

- [4] F. Rossi, A. Lendasse, D. Francois, V. Wertz, and M. Verleysen, "Mutual information for the selection of relevant variables in spectrometric nonlinear modelling," *Chemometrics and Intelligent Laboratory Systems*, vol. 80, pp. 215–226, February 2006.

In this paper, we have developed a methodology to select input variable in the field of spectrometric modeling. This approach is new in the field of Chemometrics and gives the possibility to improve the interpretability of such spectrometric problems. The methodology is using efficiently Mutual Information in order to select the most relevant variables among several thousand of candidates. This paper is now one of the reference papers in Chemometrics.

Number of citations: 94/142/43 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 2.30

DOI: <http://dx.doi.org/doi:10.1016/j.chemolab.2005.06.010>.

- [5] A. Sorjamaa, J. Hao, N. Reyhani, Y. Ji, and A. Lendasse, "Methodology for long-term prediction of time series," *Neurocomputing*, vol. 70, pp. 2861–2869, October 2007.

This paper is joint work of all my former master students and myself. We have compared the two main methodologies for the long-term prediction of Time Series: the recursive and the direct methodologies. This paper is important since we have shown that the direct approach is the most accurate and the most robust. Since the publication of this paper, the number of works using the recursive methodology has decreased considerably.

Number of citations: 67/114/40 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 1.60

DOI: <http://dx.doi.org/10.1016/j.neucom.2006.06.015>.

- [6] G. Simon, A. Lendasse, M. Cottrell, J.-C. Fort, and M. Verleysen, "Time series forecasting: Obtaining long term trends with self-organizing maps," *Pattern Recognition Letters*, vol. 26, pp. 1795–1808, September 2005.

This paper is a joint work with my former student G. Simon. We have presented a new method to predict the very long trend of a Time Series using a double Self-Organizing Map. This methodology is useful to predict economical Time Series like the price of natural gas.

Number of citations: 26/34/14 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 1.72

DOI: <http://dx.doi.org/doi:10.1016/j.patrec.2005.03.002>.

- [7] A. Lendasse, D. Francois, V. Wertz, and M. Verleysen, "Vector quantization: a weighted version for time-series forecasting," *Future Generation Computer Systems*, vol. 21, no. 7, pp. 1056–1067, 2005.

In this paper, I have presented a new method to predict Time Series using Vector Quantization. The advantage of the method is that it is possible to determine automatically the relative importance of each input variable used for the prediction. The method is now used by other authors in order to improve the performance of other prediction methods using this relative importance as a preprocessing.

Number of citations: 11/16/9 (according to Scopus/Google-Scholar/Microsoft-Academic)

Impact Factor: 1.98

DOI: <http://dx.doi.org/10.1016/j.future.2004.03.006>.

- [8] A. Lendasse, G. Simon, V. Wertz, and M. Verleysen, "Fast bootstrap methodology for regression model selection," *Neurocomputing*, vol. 64, pp. 161–181, March 2005.

This paper is presenting an improvement of the well-know bootstrap method for model structure selection. The bootstrap is very efficient to estimate the performance of a model but is very slow since thousands of bootstrap repetitions are usually needed. Using some properties of the optimism calculated by the bootstrapping, we have divided the computational time by several orders of magnitude. This methodology has been illustrated with LS-SVM and RBFN. Other authors have later-on applied the Fast-Bootstrap to other nonlinear models.

Number of citations: 8/17/17 (according to Scopus/Google-Scholar/Microsoft-Academic)

5-Year Impact Factor: 1.60

DOI: <http://dx.doi.org/doi:10.1016/j.neucom.2004.11.017>.

- [9] A.-M. Ventelä, T. Kirkkala, A. Lendasse, M. Tarvainen, H. Helminen, and J. Sarvala, "Climate-related challenges in long-term management of säkylän pyhäjärvi (SW finland)," *Hydrobiologia*, vol. 660, pp. 49–58, 2011.

This paper is a new publication in the field of Environmental Modeling. This an invited paper that shows how to use new and efficient variable selection methods in order to understand complex environmental systems. Number of citations: 5/3/0 (according to Scopus/Google-Scholar/Microsoft-Academic) 5-Year Impact Factor: 2.07

DOI: <http://dx.doi.org/10.1007/s10750-010-0415-4>.

- [10] A. Lendasse, E. de Bodt, V. Wertz, and M. Verleysen, "Nonlinear financial time series forecasting - application to the bel 20 stock market index," *European Journal of Economic and Social Systems*, vol. 14, pp. 81–92, February 2001.

This paper is my first journal paper. It presents a new method to predict Financial Time Series. I have shown that it is possible to predict accurately the sign of the return of a financial Time Series (with 75% of correct prediction of the sign). We can then answer to the following question: is the value of a stock market going to increase or decrease during the next few days? The results also show that stock markets related to small countries are easier to predict since the hypothesis of financial efficiency is not totally valid in these countries.

Number of citations: 81/35 (according to Google-Scholar/Microsoft-Academic)

WEB: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.11.9681>.

Amaury Lendasse, FULL Publication List on June 2014

Journal articles

- [1] Emil Eirola, Gauthier Doquire, Michel Verleysen and Amaury Lendasse. *Distance estimation in numerical data sets with missing values*. *Information Sciences*, volume 240:pages 115–128, 2013.
- [2] Benoît Frénay, Mark van Heeswijk, Yoan Miche, Michel Verleysen and Amaury Lendasse. *Feature selection for nonlinear models using extreme learning machines*. *Neurocomputing*, volume 102:pages 111–124, 2013.
- [3] Alexander Grigorievskiy, Yoan Miche, Anne-Mari Ventelä and Amaury Lendasse. *Long-term time series prediction using OP-ELM*. *Cognitive Computation*, 2013. To appear.
- [4] Bo He, Dongxun Xu, Rui Nian, Mark van Heeswijk, Qi Yu, Yoan Miche and Amaury Lendasse. *Fast face recognition via sparse coding and extreme learning machine*. *Cognitive Computation*, 2013. To appear.
- [5] Yoan Miche, Anton Akusok, József Hegedüs, Rui Nian and Amaury Lendasse. *A two-stage methodology using k-NN and false positive minimizing ELM for nominal data classification*. *Cognitive Computation*, 2013. To appear.
- [6] Yoan Miche, Meng-Hiot Lim, Amaury Lendasse and Yew-Soon Ong. *Meme representations for game agents*. *World Wide Web*, pages 1–20, 2013.
- [7] Rui Nian, Bo He, Bing Zheng, Mark van Heeswijk, Qi Yu, Yoan Miche and Amaury Lendasse. *Extreme learning machine towards dynamic model hypothesis in fish ethology research*. *Neurocomputing*, 2013. To appear.
- [8] Mark van Heeswijk, Qi Yu, Rui Nian, Bo He, Yoan Miche and Amaury Lendasse. *BIP(CV)-ELM: Effective and adaptive pretraining method for extreme learning machines*. *Cognitive Computation*, 2013. To appear.
- [9] Qi Yu, Yoan Miche, Emil Eirola, Mark van Heeswijk, Eric Séverin and Amaury Lendasse. *Regularized extreme learning machine for regression with missing data*. *Neurocomputing*, volume 102:pages 45–51, 2013.
- [10] Qi Yu, Yoan Miche, Eric Séverin and Amaury Lendasse. *Bankruptcy prediction using extreme learning machine and financial expertise*. *Neurocomputing*, 2013. To appear.
- [11] Qi Yu, Mark van Heeswijk, Yoan Miche, Rui Nian, Bo He, Eric Séverin and Amaury Lendasse. *Ensemble delta test- extreme learning machine (DT-ELM) for regression*. *Cognitive Computation*, 2013. To appear.
- [12] Rui Nian, Bo He and Amaury Lendasse. *3d object recognition based on a geometrical topology model and extreme learning machine*. *Neural Computing and Applications*, pages 1–7, 2012, To appear. ISSN 0941-0643.
- [13] Federico Montesino Pouzols and Amaury Lendasse. *Adaptive kernel smoothing regression for spatio-temporal environmental datasets*. *Neurocomputing*, volume 90:pages 59–65, August 2012. ISSN 0925-2312.
- [14] Laura Kainulainen, Yoan Miche, Emil Eirola, Qi Yu, Benoit Frénay, Eric Séverin and Amaury Lendasse. *Ensembles of local linear models for bankruptcy analysis and prediction*. *Case Studies in Business, Industry and Government Statistics (CSBIGS)*, volume 4(2), November 2011.
- [15] E. Liitiäinen, F. Corona and A. Lendasse. *On the curse of dimensionality in supervised learning of smooth regression functions*. *Neural Processing Letters*, volume 34(2):pages 133–154, 2011.

- [16] Yoan Miche, Mark van Heeswijk, Patrick Bas, Olli Simula and Amaury Lendasse. *TROP-ELM: a double-regularized ELM using LARS and tikhonov regularization*. *Neurocomputing*, volume 74(16):pages 2413–2421, September 2011.
- [17] Mark van Heeswijk, Yoan Miche, Erkki Oja and Amaury Lendasse. *GPU-accelerated and parallelized ELM ensembles for large-scale regression*. *Neurocomputing*, volume 74(16):pages 2430–2437, September 2011.
- [18] Francesco Corona, Amaury Lendasse and Elia Liitiäinen. *A boundary corrected expansion of the moments of nearest neighbor distributions*. *Random Structures and Algorithms*, volume 37(2):pages 223–247, September 2010.
- [19] Alberto Guillén, Luis Herrera, Gines Rubio, Amaury Lendasse and Hector Pomares. *New method for instance or prototype selection using mutual information in time series prediction*. *Neurocomputing*, volume 73(10–12):pages 2030–2038, June 2010.
- [20] Amaury Lendasse, Timo Honkela and Olli Simula. *European symposium on times series prediction*. *Neurocomputing*, volume 73(10–12):pages 1919–1922, June 2010.
- [21] Elia Liitiäinen, Amaury Lendasse and Francesco Corona. *Residual variance estimation using a nearest neighbor statistic*. *Journal of Multivariate Analysis*, volume 101(4):pages 811–823, April 2010.
- [22] Paul Merlin, Antti Sorjamaa, Bertrand Maillet and Amaury Lendasse. *X-SOM and l-SOM: A double classification approach for missing value imputation*. *Neurocomputing*, volume 73(7-9):pages 1103–1108, March 2010.
- [23] Yoan Miche, Antti Sorjamaa, Patrick Bas, Olli Simula, Christian Jutten and Amaury Lendasse. *OP-ELM: Optimally-pruned extreme learning machine*. *IEEE Transactions on Neural Networks*, volume 21(1):pages 158–162, January 2010.
- [24] Federico Montesino Pouzols and Amaury Lendasse. *Evolving fuzzy optimally pruned extreme learning machine for regression problems*. *Evolving Systems*, volume 1(1):pages 43–58, August 2010.
- [25] Federico Montesino Pouzols, Amaury Lendasse and Angel Barriga Barros. *Autoregressive time series prediction by means of fuzzy inference systems using nonparametric residual variance estimation*. *Fuzzy Sets and Systems*, volume 161(4):pages 471–497, February 2010.
- [26] Antti Sorjamaa, Amaury Lendasse, Yves Cornet and Eric Deleersnijder. *An improved methodology for filling missing values in spatiotemporal climate data set*. *Computational Geosciences*, volume 14:pages 55–64, January 2010.
- [27] Anne-Mari Ventelä, Teija Kirkkala, Amaury Lendasse, Marjo Tarvainen, Harri Helminen and Jouko Sarvala. *Climate-related challenges in long-term management of säkylän pyhäjärvi (SW finland)*. *Hydrobiologia*, volume Online First:pages 1–10, 2010.
- [28] Qi Yu, Yoan Miche, Antti Sorjamaa, Alberto Guillén, Amaury Lendasse and Eric Séverin. *OP-KNN: Method and applications*. *Advances in Artificial Neural Systems*, volume 2010(597373):page 6 pages, February 2010.
- [29] Francesco Corona, Elia Liitiäinen, Amaury Lendasse, Lorenzo Sassu, Stefano Melis and Roberto Baratti. *A SOM-based approach to estimating product properties from spectroscopic measurements*. *Neurocomputing*, volume 73(1–3):pages 71–79, December 2009.
- [30] Elia Liitiäinen, Michel Verleysen, Francesco Corona and Amaury Lendasse. *Residual variance estimation in machine learning*. *Neurocomputing*, volume 72(16–18):pages 3692–3703, October 2009.
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